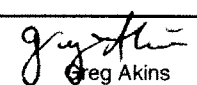



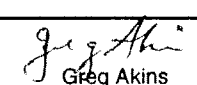
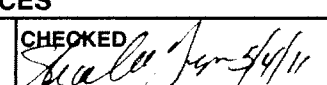
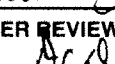
FEATURE: Klamath River Dams Removal Partial Removal Option Copco No. 2 Dam & Powerplant Removal Most Probable High Life Cycle - 50 Year Summary		PROJECT: Klamath River Oregon					
		WOID: AF652		ESTIMATE LEVEL: Feasibility			
		REGION: MP		UNIT PRICE LEVEL: Jul-10			
		FILE: U:\2011 Projects\Klamath\007 Crystal Ball\Klamath Summary Cost Sheet_122310.xls\MPL_MP_MPH_Full					



PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
		Periodic Costs - Year 1					\$247,680.00
		Periodic Costs - Year 5					\$157,217.23
		Periodic Costs - Year 10					\$128,447.03
		Periodic Costs - Year 13					\$32,667.67
		Periodic Costs - Year 15					\$104,941.70
		Periodic Costs - Year 20					\$85,737.19
		Periodic Costs - Year 25					\$90,160.47
		Periodic Costs - Year 30					\$57,230.61
		Periodic Costs - Year 35					\$46,756.64
		Periodic Costs - Year 38					\$11,891.46
		Periodic Costs - Year 40					\$38,201.20
		Periodic Costs - Year 45					\$31,210.22
		Periodic Costs - Year 50					0.00
		Annual Costs - Maintenance					\$2,944,208.00
		(Assumes gov't service / construction contracts)					
		Subtotal 1					\$3,976,349.42
		Mobilization	5%	+/-			\$200,000.00
		Subtotal 1 with Mobilization					\$4,176,349.42
		Escalation to Notice to Proceed (NTP): from Unit Price Level (July, 2010) to NTP (July, 2020)					\$2,232,229.58
		at 4.375%		per year for	120	months.	
		Subtotal 2 = Subtotal 1 with Mobilization + Escalation to NTP					\$6,408,579.00
		Design Contingencies	15%	+/-			\$944,024.00
		Subtotal 3 = Subtotal 2 + Design Contingencies					\$7,352,603.00
		Allowance for Procurement Strategies (APS)	2.0%	+/-			\$147,397.00
		Type of solicitation assumed is: Selective Request for Proposal					
		Subtotal 4 = Subtotal 3 + APS					\$7,500,000.00
		CONTRACT COST					\$7,500,000.00
		Construction Contingencies	25%	+/-			\$1,900,000.00
		FIELD COST					\$9,400,000.00
		Non-Contract Costs	35%	+/-			\$3,100,000.00
		(Environmental Cultural / Mitigation ~ 10%,					
		Engineering Design ~ 7%, Maintenance Service Contract ~ 5%					
		Procurement ~ 2%, Inspections ~ 10%					
		and Closeout ~ 1%)					
		CONSTRUCTION COST					\$12,500,000.00
		Ref.: For appropriate use and terminology, see Reclamation Manual, Directives and Standards FAC; 09-01, 09-02 and 09-03.					

QUANTITIES		PRICES	
BY Rick Benik	CHECKED Stephen Latham	BY  Greg Akins	CHECKED  David MacLean
DATE PREPARED 03/24/11	PEER REVIEW / DATE Tom Hepler P.E. 3/25/11	DATE PREPARED 6/19/11	PEER REVIEW / DATE DCD 6/13/11

FEATURE: Klamath River Dams Removal Partial Removal Option Copco No. 2 Dam & Powerplant Removal Most Probable High Life Cycle - 50 Year Operation and Maintenance - Initial Capital Costs				PROJECT: Klamath River Oregon			
		WOID: AF652	ESTIMATE LEVEL: Feasibility				
		REGION: MP	UNIT PRICE LEVEL: Jul-10				
		FILE: U:\2011 Projects\Klamath\002 Completed Sheets\MP MPL MPH\02 - Copco 2\MPH\Copco 2 MPH - Probable.xlsx\Life Cycle Summary					

PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	1	Furnish, install, and maintain a 7-foot-high chain link fence on all four sides of the powerhouse (assume a double 12ft wide gate for vehicle access) (assume replace 3 times)	86-68130	500	lf	\$65.00	\$32,500.00
	2	Repaint exposed portion of penstocks (Assume repaint 9 times) <i>Estimate assume minor paint repair ~ 4% area</i>	86-68130	18,300	ft2	\$5.00	\$91,500.00
	3	Repaint sloping trashrack at penstock intake (quantity based on repainting all four sides of each 4" by 1/2" bar in trashrack, 48-ft-wide by 32-ft-high vertical opening, includes top plate) (Assume repaint 9 times) <i>Estimate assume minor paint repair ~ 4% area</i>	86-68130	8,900	ft2	\$6.00	\$53,400.00
	4	Repaint gratings at penstock intake (quantity based on repainting all four sides of each 5/16" by 2 1/4" bar in grating, assume repaint 9 times) <i>Estimate assume minor paint repair ~ 4% area</i>	86-68130	1,300	ft2	\$9.00	\$11,700.00
	5	Repaint caterpillar gate (assume access available to both sides of gate, assume repaint 9 times)	86-68130	1,800	ft2	\$9.00	\$16,200.00
	6	Repaint caterpillar gate hoist structure (assume repaint 9 times) <i>Estimate assume minor paint repair ~ 4% area</i>	86-68130	1,400	ft2	\$9.00	\$12,600.00
	7	Repaint trashrake superstructure (assume repaint 9 times) <i>Estimate assume minor paint repair ~ 4% area</i>	86-68130	370	ft2	\$19.00	\$7,030.00
	8	Furnish, install, and maintain a 7-foot-high chain link fence on all four sides of penstock intake structure (assume single 3ft wide gate for access) (assume replace 3 times)	86-68130	350	lf	\$65.00	\$22,750.00
LIFE CYCLE SUBTOTAL							\$247,680.00

QUANTITIES		PRICES	
BY Rick Benik	CHECKED Stephen Latham	BY  Greg Akins	CHECKED  Scott Jones
DATE PREPARED 03/21/11	PEER REVIEW / DATE Tom Hepler P.E. 3/24/11	DATE PREPARED 5/4/11	PEER REVIEW / DATE  5/4/11

FEATURE:				PROJECT:			
Klamath River Dams Removal Partial Removal Option Removal Site Maintenance Most Probable High Life Cycle - 50 Year Operation and Maintenance - Periodic Costs				Klamath River Oregon			
				WOID:	AF484	ESTIMATE LEVEL:	Feasibility
				REGION:	MP	UNIT PRICE LEVEL	Jul-10
				FILE:			
				U:\2011 Projects\Klamath\002 Completed Sheets\MP MPL MPH\02 - Copco 2\MPH\Copco 2 MPH - Probable.xlsx\O&M			
PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	1	Site Maintenance - Annual: Copco 2 Site only*		1	LS	\$140,000.00	\$140,000.00
		Labor needed per year	86-68130	150	mdy**		
		3-Man maintenance crew					
		6 Months active inspection/maintenance					
		2 Weeks full time (1 month each spring)					
		4 Full days, 2 times each month (5 months)					
		Site maintenance required at JC Boyle, Copco 1 & Copco 2					
		<i>Estimate prorated the amount of time at each dam site based on percent of total partial removal construction costs</i>					
		Equipment needed per year	86-68130	50	dy***		
		1-Service truck					
		Includes compressor, welder, generator and general tools					
		<i>Estimate prorated the time at each dam site based on percent of total partial removal construction costs</i>					
		Materials needed per year (percentage of labor & equipment)	86-68130	15%			
		Road maintenance needed per year (percentage of labor & equipment)	86-68130	10%			
		<i>*Total estimated cost for all 3 sites is approximately \$462,000 annually: prorated ±30% for the Copco 2 site only</i>					
		<i>** Man days per year for 50 years</i>					
		<i>***Days per year for 50 years</i>					
		SUBTOTAL THIS SHEET					\$140,000.00
QUANTITIES				PRICES			
BY	CHECKED	BY		CHECKED			
Rick Benik	Stephen Latham	 Greg Akins					
DATE PREPARED	PEER REVIEW / DATE	DATE PREPARED		PEER REVIEW / DATE			
04/18/11	Tom Hepler P.E. 4/18/11	5/4/11		 Rick Benik		5/4/11	